



## Ecosystem services in Mediterranean river basin: Climate change impact on water provisioning and erosion control

**Author(s):** Bangash RF, Passuello A, Sanchez-Canales M, Terrado M, Lopez A, Elorza FJ, Ziv G, Acuna V, Schuhmacher M  
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### Abstract:

The Mediterranean basin is considered one of the most vulnerable regions of the world to climate change and such changes impact the capacity of ecosystems to provide goods and services to human society. The predicted future scenarios for this region present an increased frequency of floods and extended droughts, especially at the Iberian Peninsula. This paper evaluates the impacts of climate change on the water provisioning and erosion control services in the densely populated Mediterranean Llobregat river basin of. The assessment of ecosystem services and their mapping at the basin scale identify the current pressures on the river basin including the source area in the Pyrenees Mountains. Drinking water provisioning is expected to decrease between 3 and 49%, while total hydropower production will decrease between 5 and 43%. Erosion control will be reduced by up to 23%, indicating that costs for dredging the reservoirs as well as for treating drinking water will also increase. Based on these data, the concept for an appropriate quantification and related spatial visualization of ecosystem service is elaborated and discussed.

**Source:** <http://dx.doi.org/10.1016/j.scitotenv.2013.04.025>

### Resource Description

#### Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

**Special Report on Emissions Scenarios (SRES) Scenario:** SRES A2, SRES B1

#### Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Security

**Extreme Weather Event:** Drought, Flooding, Landslides

#### Geographic Feature:

resource focuses on specific type of geography

Freshwater

# Climate Change and Human Health Literature Portal

## **Geographic Location:**

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**European Region/Country:** European Country

**Other European Country :** Spain

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

## **Intervention:**

strategy to prepare for or reduce the impact of climate change on health

A focus of content

## **Model/Methodology:**

type of model used or methodology development is a focus of resource

Exposure Change Prediction

**Other Projection Model/Methodology:** Discussion only

## **Resource Type:**

format or standard characteristic of resource

Research Article

## **Resilience:**

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

## **Timescale:**

time period studied

Long-Term (>50 years)

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content